Naming Acid Rules

Binary Acids

- 2 elements
- Prefix – hydro
- ending – ic
- Exmple: HCl is hydrochloric acid

Terenary acids

- made up of 3 elements, one of which is oxygen
- ends in polyatomic ion

    - if ion ends in ate (example, chlorate) no prefix and ending is ic
    - example; $HClO_3$, chloric acid.
    - **ate ion is the reference ion** (determines the base number of oxygen atoms)

    - if ion ends in ite (example, chlorite)
    - ite ion has one fewer oxygen than ate ion
    - no prefix
    - ends in ous
    - example; $HClO_2$, chlorous acid)

    - if ion has two fewer oxygen than ate ion (example hypochlorite)
    - prefix is hypo
    - ending is ous
    - example; HClO, hypochlorous acid

    - if ion has one more oxygen than ate ion (example perchlorate)
    - prefix is per and ending is ic
    - example; $HClO_4$, perchloric acid

Example Families

Oxygen	Chemical Name	Acid Name
2 fewer	HClO	hypochlorous acid
1 fewer	$HClO_2$	chlorous acid
(ate) reference ion	$HClO_3$	chloric acid
1 more	$HClO_4$	perchloric acid
1 fewer	H_2SO_3	sulfurous acid
(ate) reference ion	H_2SO_4	sulfuric acid